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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,376	07/09/2007	David G. Burton	8627-1391 (PA-5511-PCT/US)	8852
48003 7590 08/03/2009 BRINKS HOFER GILSON & LIONE/CHICAGO/COOK PO BOX 10395 CHICAGO, IL 60610			EXAMINER GRAHAM, BRIAN J	
			ART UNIT 3734	PAPER NUMBER
			MAIL DATE 08/03/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,376	Applicant(s) BURTON ET AL.	
	Examiner BRIAN GRAHAM	Art Unit 3734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/09/2007, 05/29/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (United States Patent Application Publication Number 2003/0139762) in view of Bleam (United States Patent Number 5,797,878).

Lee discloses a dilation catheter comprising an elongate catheter body with a lumen and a balloon (40) in communication with the lumen, the balloon comprising a working length (44) surrounded by proximal and distal regions, each of which comprises a taper-to-neck transition and a working length-to-taper transition (proximal taper 48 includes a proximal taper-to-neck transition near ref. 42, and a proximal working length-to-taper transition at ref. 40, similar transitions are found at distal taper 50). Lee discloses that the balloon is between 1.5 and 15 mm in diameter (paragraph [0020]). Lee also teaches that the tapers of the balloon should be smooth in order to allow the balloon to traverse stenoses ((paragraph [0005])), but Lee does not disclose specific radii of transition with respect to the balloon. However, Bleam discloses that smaller taper angles and longer taper lengths can reduce cross and recross forces in balloon catheters (col. 2, lines 12-22, and 60-67). Given Bleam's disclosure that smaller angles

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of taper and longer taper lengths minimize cross and recross forces, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize larger radii of transition as well as decreased taper angles and increased taper lengths in a balloon sized as specified by Lee, in order to increase the smoothness of the taper even further and minimize cross and recross forces as much as possible. Furthermore, It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize transitional radii within the ranges listed in claims 2-10, 18-21, and 23-26 for the balloon diameters specified, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claims 11-13, Bleam discloses the angles at the taper-to-neck and working length-to-taper transitions being equivalent (col. 6, lines 57-65), and discloses that the balloon ends 22 and 24 are symmetrical (col. 6, lines 23-31).

Regarding claims 14-16, Lee discloses the proximal and distal tapers being asymmetric, and the diameters along the taper being either constant or varied (paragraph [0031]). As such it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide varying transitional radii amongst any of the 4 transitions to accommodate the various taper diameters.

Regarding claim 22, Lee further discloses inserting a dilation catheter through a conduit, inflating the balloon, deflating the balloon, and applying a force to the catheter to remove the balloon (paragraphs [0004] and [0005]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN GRAHAM whose telephone number is (571)270-7484. The examiner can normally be reached on Monday - Friday 8:00 am-5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on (571)272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B.J.G./
July 23, 2009

/Todd E Manahan/
Supervisory Patent Examiner, Art Unit 3734